

AMENDMENTS TO THE CLAIMS

Listing of Claims

Claim 1. (withdrawn). An elongated cathode target comprising titanium and aluminum in the range of 1 to 99 weight percent titanium and 1 to 99 weight percent aluminum.

Claim 2. (withdrawn). The cathode target according to claim 1, wherein the weight percent titanium is from 10 to 95 percent.

Claim 3. (withdrawn). The cathode target according to claim 2, further comprising up to 50 weight percent of silicon, magnesium, transition metals, or mixtures thereof.

Claim 4. (withdrawn). The cathode target according to claim 2, wherein the weight percent of aluminum is from 5 to 85 weight percent, and the weight percent of titanium is from 15 to 95 weight percent of the target.

Claim 5. (withdrawn). The cathode target according to claim 1, wherein the weight percent of aluminum is in the range of 35 to 37 weight percent of the target.

Claim 6. (withdrawn). The cathode target according to claim 1, wherein the cathode is produced by plasma spray, casting, or HIP.

Claim 7. (withdrawn). A method for depositing coatings comprising titanium and aluminum, comprising:

- a. maintaining a substrate in an evacuated chamber;
- b. maintaining an atmosphere comprising a gas selected from the group consisting of inert gas, nitrogen, oxygen, and mixtures thereof; and
- c. sputtering an elongated cathode target comprising 1 to 99 weight percent titanium and 1 to 99 weight percent aluminum, to deposit a titanium and aluminum containing coating on a surface of the substrate.

Claim 8. (withdrawn). The method according to claim 7, wherein the substrate is a visible light transmitting substrate.

Claim 9. (withdrawn). The method according to claim 7, wherein the substrate is glass or plastic.

Claim 10. (withdrawn). The method according to claim 9, wherein the atmosphere comprises at least one of an inert gas, oxygen, nitrogen, and combinations thereof, and the cathode target further comprises silicon, and the sputtering comprises sputtering a coating that is up to 40 weight percent silicon.

Claim 11. (withdrawn). The method according to claim 7, wherein the target comprises 20 to 70 weight percent aluminum and 30 to 80 weight percent titanium.

Claim 12. (withdrawn). The method according to claim 11, wherein the target comprises 5 to 20 weight percent of another metal containing material.

Claim 13. (withdrawn). The method according to claim 11, wherein the target comprises 5 to 20 weight percent of silicon.

Claim 14. (withdrawn). The method according to claim 7, wherein the atmosphere comprises nitrogen, and the coating comprises materials selected from titanium, aluminum, titanium-nitride, aluminum-nitride, (titanium-aluminum)nitride, and combinations thereof.

Claim 15. (withdrawn). The method according to claim 7, wherein the atmosphere comprises nitrogen and oxygen, and the coating comprises materials selected from titanium, aluminum, titanium oxide, aluminum oxide, (titanium-aluminum)oxide, titanium nitride, aluminum nitride, (titanium-aluminum)nitride, titanium oxynitride, aluminum oxynitride, (titanium-aluminum) oxynitride, and combinations thereof.

Claim 16. (withdrawn). The method according to claim 7, wherein the atmosphere comprises oxygen and inert gas, and the coating comprises materials selected from titanium, aluminum, titanium oxide, aluminum oxide, (titanium-aluminum)oxide, and combinations thereof.

Claim 17. (withdrawn). The method according to claim 11, wherein the atmosphere consists essentially of inert gas and the coating consists essentially of titanium and aluminum.

Claim 18. (withdrawn). The method according to claim 11, wherein the atmosphere comprises oxygen and the coating comprises titanium oxide and aluminum-oxide.

Claim 19. (withdrawn). The method according to claim 11, wherein the atmosphere comprises oxygen and nitrogen and the coating comprises titanium and aluminum-silicon-transition metal oxynitride.

Claim 20. (currently amended). A ~~coated~~coating article, comprising:

a substrate;

a functional coating deposited over at least a portion of the substrate; and

a Ti-Al coating consisting essentially of oxides, nitrides or oxynitrides of

~~comprising~~ titanium and aluminum deposited over at least a portion of the functional coating, wherein the Ti-Al coating is 20 to 60 atomic percent aluminum.

Claim 21. (original). The article of claim 20, wherein the functional coating comprises at least one dielectric layer and at least one infrared reflective layer.

Claim 22. (original). The article of claim 20, wherein the functional coating comprises conductive metal nitrides and alloys of nickel and chrome.

Claim 23. (currently amended). The article of claim 2048, wherein the infrared reflective metal is selected from the group consisting of silver, gold, copper, steel, and combinations thereof.

Claim 24. (cancel).

Claim 25. (cancel).

Claim 26. (currently amended). The article of claim 2025, wherein the Ti-Al coating is ~~aluminum is present in the range of~~ 40 to 60 atomic percent aluminum.

Claim 27. (currently amended). A coated article, comprising:

a substrate;

a functional coating deposited over at least a portion of the substrate,

wherein the functional coating comprises at least one dielectric layer, at least one

infrared reflective layer deposited over the dielectric layer, and at least one primer film deposited over at least a portion of the infrared reflective layer; and

a Ti-Al layer consisting essentially of~~comprising~~ oxides, nitrides or oxynitrides of titanium and aluminum incorporated into the functional coating, wherein the Ti-Al layer is 20 to 60 atomic percent aluminum.

Claim 28. (original). The article of claim 27, wherein the Ti-Al layer is the primer film.

Claim 29. (cancel).

Claim 30. (original). The article of claim 29, wherein the infrared reflective metal is selected from the group consisting of silver, gold, copper, steel, and combinations thereof.

Claim 31. (cancel).

Claim 32. (cancel).

Claim 33. (currently amended). The article of claim ~~27~~³², wherein the Ti-Al layer is aluminum~~is present in the range of 40 to 60 atomic percent aluminum.~~

Claim 34. (original). The article of claim 27, wherein the functional coating comprises conductive metal nitrides and alloys of nickel and chrome.

Claim 35. (new). A coated article comprising:

a substrate;

an infrared reflective coating over the substrate; and

a primer layer comprising titanium and aluminum directly over and in contact with the infrared reflective coating.